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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/523,173

Applicant(s)

MIYAZAWA ET AL.

Examiner

ASHOK B. PATEL

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 1/28/2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SF/ICE)
Paper No(s)/Mail Date 1/28/05, 11/28/05
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

1. Claims 1-24 are subject to examination.

Claim Rejections - 35 USC § 101

2. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

3. Claims 1-6, and 13-24 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Referring to claims 1-6,

All the limitations having "means for.....is non-statutory, as the various recited means can be reasonably interpreted by one of ordinary skill in the art as software, per se, and therefore not tangibly embodied in a manner so as to be executable.

Referring to claims 13-18,

These claims recite "a recording medium that is computer-readable and records a program for executing the control steps." Examiner does not understand why a recording medium is recording the steps as claim recites.

Referring to claims 19-24,

These claims are for software, per se, and therefore not tangibly embodied in a manner so as to be executable.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-24 are rejected under 35 U.S.C. 102(b) as being anticipated by Cloutier (US 5, 966, 387).

Referring to claim 1,

Cloutier teaches an information processing apparatus comprising: first extraction means for extracting a reproduction time from stream data; second extraction means for extracting a reception time of said stream data; computation means for computing a difference between said reception time and said reproduction time; and adjustment means for adjusting a reproduction time on the basis of said difference. (col. 10, line 41-col. 11, line 48, "As shown in FIG. 2, the jitter correction device 122 comprises a PCR detector 124 that detects each occurrence of a PCR value in the MPEG stream (first extraction means for extracting a reproduction time from stream data). As indicated above, the PCR value represents the expected arrival time of the particular data packet in the data stream. The PCR value is generated during encoding in the real time encoder 718 shown in FIG. 7. The program clock reference PCR value is carried in an optional adaptation field within an MPEG packet, as discussed in detail below with respect to FIG. 3, and is presented at intervals within the transport

packets. In this example, the PCR may be present in as few as ten transport packets per second.

Upon detecting a PCR value, the PCR detector 124 outputs a detection signal (EN), and outputs the detected PCR value (X.sub.n) to a detection processor 128. The detection processor 128 also receives a signal Y.sub.n representing an actual arrival time for the corresponding data packet stream segment. The signal Y.sub.n is generated by a timing circuit 130 that outputs the actual arrival time signal Y.sub.n (second extraction means for extracting a reception time of said stream data) in response to the detection signal (EN) from the PCR detector 124, and in response to an independent clock signal.

The timing circuit 130 comprises a counter 132, such as a modulo 2.sup.30 counter, that increments and outputs a count value in response to the independent clock signal generated by clock 134. The independent clock 134 is a clock having a clock rate that is independent of the detection of the PCR values from the received MPEG stream. Thus, unlike the VCXO in FIG. 1, the independent clock 134 is not affected by differential delays in the MPEG stream, and therefore is able to measure the actual arrival time of the MPEG stream segment between successive PCR values.

The independent clock 134 may be implemented as a crystal oscillator that is synchronized to well-known reference time standards. Alternatively, the clock signal may be provided from a separate source, such as a network clock, or a GPS receiver. In any event, the clock 134 is independent of the received MPEG stream and the detected PCR values.

The counter 132 outputs the count value to a latch circuit that latches the count value from the counter 132 in response to the detection signal (EN) from the PCR detector 124. The latch circuit 136 outputs the latched count value to a time converter 140 that converts the count value output by the latch 136 to a recognizable format, such as milliseconds or clock cycles of a 27 MHz clock. Alternatively, the functions of the time converter 140 may be performed in the detection processor 128.

The detection processor 128 calculates the jitter based on the correlation of the expected arrival time $X_{sub.n}$ and the actual arrival time $Y_{sub.n}$. (computation means for computing a difference between said reception time and said reproduction time) The detected jitter value is output to a data network interface 148, such as an Ethernet card, that sends and receives data to and from a control circuit, for example a processor of a digital entertainment terminal (DET). The detection processor 128 also uses the detected jitter value to generate control signals for a data packet stream correction circuit 142 that receives the MPEG stream transported through the network and outputs a corrected data packet stream having PCR values that identify an expected arrival time substantially coinciding with the actual time duration of the corresponding data packet stream segment. The data packet stream correction circuit 142 selectively uses one of two techniques to eliminate the jitter from the MPEG stream caused by, for example, cell delay variation. One technique, as discussed in detail below, involves selectively buffering the MPEG stream using a buffer 144 in response to buffer control signals from the detection processor

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128 (BA, OC). The second technique for correcting for the jitter in the MPEG stream is by using a timing restamp module 146, whereby the PCR values stored in the MPEG stream are rewritten with corrected time stamps in accordance with the detected jitter (adjustment means for adjusting a reproduction time on the basis of said difference.). As shown in FIG. 2, the data packet stream correction circuit comprises the buffer circuit 144 and the time restamp module 146. As such, either technique may be used alone or in combination to provide the corrected MPEG stream.")

Referring to claim 2,

Cloutier teaches an information processing apparatus comprising: first extraction means for extracting an interval of reproduction time between packets of stream data; second extraction means for extracting an interval of reception time between packets of said stream data; computation means for computing a difference between said interval of reproduction time and said interval of reception time; and adjustment means for adjusting a reproduction time on the basis of said difference (col. 10, line 41-col. 11, line 48, "As shown in FIG. 2, the jitter correction device 122 comprises a PCR detector 124 that detects each occurrence of a PCR value in the MPEG stream. As indicated above, the PCR value represents the expected arrival time of the particular data packet in the data stream. The PCR value is generated during encoding in the real time encoder 718 shown in FIG. 7. The program clock reference PCR value is carried in an optional adaptation field within an MPEG packet, as discussed in detail below with respect to FIG. 3, and is presented at intervals within the

transport packets. In this example, the PCR may be present in as few as ten transport packets per second.

Upon detecting a PCR value, the PCR detector 124 outputs a detection signal (EN), and outputs the detected PCR value (X.sub.n) to a detection processor 128 (first extraction means for extracting an interval of reproduction time between packets of stream data). The detection processor 128 also receives a signal Y.sub.n representing an actual arrival time for the corresponding data packet stream segment. The signal Y.sub.n is generated by a timing circuit 130 that outputs the actual arrival time signal Y.sub.n (second extraction means for extracting an interval of reception time between packets of said stream data) in response to the detection signal (EN) from the PCR detector 124, and in response to an independent clock signal.

The timing circuit 130 comprises a counter 132, such as a modulo 2.sup.30 counter, that increments and outputs a count value in response to the independent clock signal generated by clock 134. The independent clock 134 is a clock having a clock rate that is independent of the detection of the PCR values from the received MPEG stream. Thus, unlike the VCXO in FIG. 1, the independent clock 134 is not affected by differential delays in the MPEG stream, and therefore is able to measure the actual arrival time of the MPEG stream segment between successive PCR values.

The independent clock 134 may be implemented as a crystal oscillator that is synchronized to well-known reference time standards. Alternatively, the clock signal may be provided from a separate source, such as a network clock,

or a GPS receiver. In any event, the clock 134 is independent of the received MPEG stream and the detected PCR values.

The counter 132 outputs the count value to a latch circuit that latches the count value from the counter 132 in response to the detection signal (EN) from the PCR detector 124. The latch circuit 136 outputs the latched count value to a time converter 140 that converts the count value output by the latch 136 to a recognizable format, such as milliseconds or clock cycles of a 27 MHz clock. Alternatively, the functions of the time converter 140 may be performed in the detection processor 128.

The detection processor 128 calculates the jitter based on the correlation of the expected arrival time $X_{sub.n}$ and the actual arrival time $Y_{sub.n}$. (computation means for computing a difference between said interval of reproduction time) The detected jitter value is output to a data network interface 148, such as an Ethernet card, that sends and receives data to and from a control circuit, for example a processor of a digital entertainment terminal (DET). The detection processor 128 also uses the detected jitter value to generate control signals for a data packet stream correction circuit 142 that receives the MPEG stream transported through the network and outputs a corrected data packet stream having PCR values that identify an expected arrival time substantially coinciding with the actual time duration of the corresponding data packet stream segment. The data packet stream correction circuit 142 selectively uses one of two techniques to eliminate the jitter from the MPEG stream caused by, for example, cell delay variation. One technique, as

discussed in detail below, involves selectively buffering the MPEG stream using a buffer 144 in response to buffer control signals from the detection processor 128 (BA, OC). The second technique for correcting for the jitter in the MPEG stream is by using a timing restamp module 146, whereby the PCR values stored in the MPEG stream are rewritten with corrected time stamps in accordance with the detected jitter (adjustment means for adjusting a reproduction time on the basis of said difference). As shown in FIG. 2, the data packet stream correction circuit comprises the buffer circuit 144 and the time restamp module 146. As such, either technique may be used alone or in combination to provide the corrected MPEG stream.”)

Referring to claim 3,

Cloutier teaches the information processing apparatus according to claim 2, wherein said reproduction time is a time stamp (col. 2, line 61-65, “As disclosed in Deiss, these PCRs are supplied during encoding of the video signal as presentation time stamps in order to provide lip synchronization of associated audio and video information at the receiver.”)

Referring to claim 4,

Cloutier teaches the information processing apparatus according to claim 2, further comprising:

first accumulation means for accumulating intervals of reproduction time between a predetermined number of consecutive packets of said stream data to obtain a first time (col. 10, line 41-52, “As shown in FIG. 2, the jitter correction device 122 comprises a PCR detector 124 that detects each occurrence of a

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PCR value in the MPEG stream. As indicated above, the PCR value represents the expected arrival time of the particular data packet in the data stream. The PCR value is generated during encoding in the real time encoder 718 shown in FIG. 7. The program clock reference PCR value is carried in an optional adaptation field within an MPEG packet, as discussed in detail below with respect to FIG. 3, and is presented at intervals within the transport packets. In this example, the PCR may be present in as few as ten transport packets per second."); and

second accumulation means for accumulating intervals of reception time between said predetermined number of consecutive packets of said stream data to obtain a second time (col. 10, line 62-col. 11, line 4, "The timing circuit 130 comprises a counter 132, such as a modulo 2.sup.30 counter, that increments and outputs a count value in response to the independent clock signal generated by clock 134. The independent clock 134 is a clock having a clock rate that is independent of the detection of the PCR values from the received MPEG stream. Thus, unlike the VCXO in FIG. 1, the independent clock 134 is not affected by differential delays in the MPEG stream, and therefore is able to measure the actual arrival time of the MPEG stream segment between successive PCR values.");

wherein said computation means computes a difference between said first time and said second time (col. 11, line 21-33, "The detection processor 128 calculates the jitter based on the correlation of the expected arrival time $X_{sub.n}$ and the actual arrival time $Y_{sub.n}$. (computation means computes a difference

between said first time and said second time) The detected jitter value is output to a data network interface 148, such as an Ethernet card, that sends and receives data to and from a control circuit, for example a processor of a digital entertainment terminal (DET). The detection processor 128 also uses the detected jitter value to generate control signals for a data packet stream correction circuit 142 that receives the MPEG stream transported through the network and outputs a corrected data packet stream having PCR values that identify an expected arrival time substantially coinciding with the actual time duration of the corresponding data packet stream segment.”)

Referring to claim 5,

Cloutier teaches the information processing apparatus according to claim 4, further comprising: smoothing means for smoothing said difference between said first time and said second time (col. 12, line 27-55, “FIG. 4A is a block diagram illustrating the detection processor 128 of FIG. 2. The detection processor 128 includes a PCR buffer 160a that receives the PCR value (X.sub.n) representing the expected arrival time, and a count buffer 160b that receives the count value (Y.sub.n) representing the actual arrival time. The buffered values are supplied to a least square error calculator 162 that calculates a least squares line 164, shown in FIG. 4B.

The least square error calculator 162 calculates the least squares line 164 by performing a best fit approximation of a plurality of samples 166 of expected/actual arrival pairs of previously-received data packet stream segments. According to the disclosed embodiment, the calculator 162

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accumulates approximately 50-100 samples 166 before performing the best fit approximation. The calculator 162 outputs the slope (m), and y-intercept (b) of the best fit approximation line 164, according to the equation $Y=mX+b$, to a jitter calculator 168 and a new PCR calculator 170.

The jitter calculator 168 determines a desired actual arrival time ($Y_{sub.n}$) according to the equation $Y_{sub.n} = mX_{sub.n} + b$, representing the ideal location of the arrival time on line 164 with respect to the received PCR value. The jitter J is then calculated as the difference $J=Y_{sub.n} - Y_{sub.n}$. The new PCR calculator 170 recalculates the new PCR value ($X_{sub.n}$), also referred to as a restamp value, according to the equation $X_{sub.n} = (Y_{sub.n} - b)/m$. As shown in FIG. 4B, the new PCR calculator 170 effectively shifts the received PCR values 172 to the calculated best fit line 164.").

Referring to claim 6,

Cloutier teaches the information processing apparatus according to claim 5, wherein said adjustment means adjusts reproduction time information by adding a time equivalent to one clock to said reproduction time or subtracting said time from said reproduction time for each number of packets with which said difference between said first time and said second time smoothed by said smoothing means provides a deviation equivalent to one clock. (col. 11, line 33-48, "The data packet stream correction circuit 142 selectively uses one of two techniques to eliminate the jitter from the MPEG stream caused by, for example, cell delay variation. One technique, as discussed in detail below, involves selectively buffering the MPEG stream using a buffer 144 in response to buffer

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control signals from the detection processor 128 (BA, OC). The second technique for correcting for the jitter in the MPEG stream is by using a timing restamp module 146, whereby the PCR values stored in the MPEG stream are rewritten with corrected time stamps in accordance with the detected jitter. As shown in FIG. 2, the data packet stream correction circuit comprises the buffer circuit 144 and the time restamp module 146. As such, either technique may be used alone or in combination to provide the corrected MPEG stream.")

Referring to claim 7,

Claim 7 is a claim to an information processing method comprising steps that are carried out by the apparatus of claim 1. Therefore, claim 7 is rejected for the reasons set forth for claim 1.

Referring to claim 8,

Claim 8 is a claim to an information processing method comprising steps that are carried out by the apparatus of claim 2. Therefore, claim 8 is rejected for the reasons set forth for claim 2.

Referring to claim 9,

Claim 9 is a claim to the information processing method comprising steps that are carried out by the apparatus of claim 3. Therefore, claim 9 is rejected for the reasons set forth for claim 3.

Referring to claim 10,

Claim 10 is a claim to the information processing method comprising steps that are carried out by the apparatus of claim 4. Therefore, claim 10 is rejected for the reasons set forth for claim 4.

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Referring to claim 11,

Claim 11 is a claim to the information processing method comprising steps that are carried out by the apparatus of claim 5. Therefore, claim 11 is rejected for the reasons set forth for claim 5.

Referring to claim 12,

Claim 12 is a claim to the information processing method comprising steps that are carried out by the apparatus of claim 6. Therefore, claim 12 is rejected for the reasons set forth for claim 6.

Referring to claim 13,

Claim 9 is a claim to a recording medium that is computer-readable and records a program for executing the control steps that are carried out by the apparatus of claim 1. Therefore, claim 13 is rejected for the reasons set forth for claim 1.

Referring to claim 14,

Claim 14 is a claim to a recording medium that is computer-readable and records a program for executing the control steps that are carried out by the apparatus of claim 2. Therefore, claim 14 is rejected for the reasons set forth for claim 2.

Referring to claim 15,

Claim 15 is a claim to a recording medium that is computer-readable and records a program for executing the control steps that are carried out by the apparatus of claim 3. Therefore, claim 15 is rejected for the reasons set forth for claim 3.

Referring to claim 16,

Claim 16 is a claim to a recording medium that is computer-readable and records a program for executing the control steps that are carried out by the apparatus of claim 4. Therefore, claim 16 is rejected for the reasons set forth for claim 4.

Referring to claim 17,

Claim 17 is a claim to a recording medium that is computer-readable and records a program for executing the control steps that are carried out by the apparatus of claim 5. Therefore, claim 17 is rejected for the reasons set forth for claim 5.

Referring to claim 18,

Claim 18 is a claim to a recording medium that is computer-readable and records a program for executing the control steps that are carried out by the apparatus of claim 6. Therefore, claim 18 is rejected for the reasons set forth for claim 6.

Referring to claim 19,

Claim 19 is a claim to program for making a computer execute the control steps of that are carried out by the apparatus of claim 1. Therefore, claim 19 is rejected for the reasons set forth for claim 1.

Referring to claim 20,

Claim 20 is a claim to program for making a computer execute the control steps of that are carried out by the apparatus of claim 2. Therefore, claim 20 is rejected for the reasons set forth for claim 2.

Referring to claim 21,

Claim 21 is a claim to program for making a computer execute the control steps of that are carried out by the apparatus of claim 3. Therefore, claim 21 is rejected for the reasons set forth for claim 3.

Referring to claim 22,

Claim 22 is a claim to program for making a computer execute the control steps of that are carried out by the apparatus of claim 4. Therefore, claim 22 is rejected for the reasons set forth for claim 4.

Referring to claim 23,

Claim 23 is a claim to program for making a computer execute the control steps of that are carried out by the apparatus of claim 5. Therefore, claim 23 is rejected for the reasons set forth for claim 5.

Referring to claim 24,

Claim 24 is a claim to program for making a computer execute the control steps of that are carried out by the apparatus of claim 6. Therefore, claim 24 is rejected for the reasons set forth for claim 6.

6. Claims 1 and 2 are rejected under 35 U.S.C. 102(b) as being anticipated by JP363262942A

Referring to claim 1,

JP363262942A teaches an information processing apparatus comprising: first extraction means for extracting a reproduction time from stream data; second extraction means for extracting a reception time of said stream data; computation means for computing a difference between said reception time and

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said reproduction time; and adjustment means for adjusting a reproduction time on the basis of said difference. ("ABSTRACT: PURPOSE: To reproduce and display an image in the same state as in a case where continuous delivery pictures stored in the memory of a terminal are received from an information center and are displayed, by displaying the image stored in the memory as correcting a reproduction interval by calculating a time difference.

CONSTITUTION: Picture information is stored in a first memory 21, and a reception time measured by a first measuring means 23 and a reception interval measured by a second measuring means 24 are stored in a second memory 22. And a reproduction time required for the reproduction and display of each picture stored in the first memory 21 is measured by a third measuring means 25. Based on those data, the time difference between the reception time stored in the second memory 22 and the reproduction time measured by the third measuring means 25 is calculated by a control means 19, then, the reception interval stored in the second memory 22 is corrected. In such a way, in the case where the picture information stored in the first memory 21 is reproduced and displayed, it is possible to reproduce and display the image at the same time interval as in the case where the picture is received and displayed from the information center 6.")

Referring to claim 2,

JP363262942A teaches an teaches an information processing apparatus comprising: first extraction means for extracting an interval of reproduction time between packets of stream data; second extraction means for extracting an

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interval of reception time between packets of said stream data; computation means for computing a difference between said interval of reproduction time and said interval of reception time; and adjustment means for adjusting a reproduction time on the basis of said difference ("ABSTRACT: PURPOSE: To reproduce and display an image in the same state as in a case where continuous delivery pictures stored in the memory of a terminal are received from an information center and are displayed, by displaying the image stored in the memory as correcting a reproduction interval by calculating a time difference.

CONSTITUTION: Picture information is stored in a first memory 21, and a reception time measured by a first measuring means 23 and a reception interval measured by a second measuring means 24 are stored in a second memory 22. And a reproduction time required for the reproduction and display of each picture stored in the first memory 21 is measured by a third measuring means 25. Based on those data, the time difference between the reception time stored in the second memory 22 and the reproduction time measured by the third measuring means 25 is calculated by a control means 19, then, the reception interval stored in the second memory 22 is corrected. In such a way, in the case where the picture information stored in the first memory 21 is reproduced and displayed, it is possible to reproduce and display the image at the same time interval as in the case where the picture is received and displayed from the information center 6.")

Conclusion

Examiner's note: Examiner has cited particular columns and line numbers in the

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references as applied to the claims above for the convenience of the applicant. Although the specified citations are representative of the teachings of the art and are applied to the specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested from the applicant in preparing responses, to fully consider the references in entirety as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the Examiner.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ashok B. Patel whose telephone number is (571) 272-3972. The examiner can normally be reached on 6:30 am-4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nathan A. Flynn can be reached on (571) 272-1915. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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/Ashok B. Patel/

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